

Storm Data and Unusual Weather Phenomena - December 2012

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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WISCONSIN, Southeast

(WI-Z068) GREEN, (WI-Z069) ROCK, (WI-Z070) WALWORTH, (WI-Z072) KENOSHA

12/01/12 00:00 CST	0	Dense Fog
12/01/12 09:00 CST	0	

Dense fog developed late in the overnight and last into the early morning hours of December 1st, reducing visibilities to 1/4 mile or less over parts of extreme southern Wisconsin. A stationary front over northern Illinois allowed boundary layer moisture to pool along and just north of the boundary, extending into far southern Wisconsin. The moisture was enhanced by an easterly flow off of Lake Michigan that spread west. Cooling overnight temperatures saturated the low layers, allowing for the dense fog formation.

(WI-Z046) MARQUETTE, (WI-Z047) GREEN LAKE, (WI-Z051) FOND DU LAC, (WI-Z052) SHEBOYGAN, (WI-Z056) SAUK, (WI-Z057) COLUMBIA, (WI-Z058) DODGE, (WI-Z059) WASHINGTON, (WI-Z060) OZAUKEE, (WI-Z062) IOWA, (WI-Z063) DANE, (WI-Z064) JEFFERSON, (WI-Z065) WAUKESHA, (WI-Z066) MILWAUKEE, (WI-Z067) LAFAYETTE, (WI-Z068) GREEN, (WI-Z069) ROCK, (WI-Z070) WALWORTH, (WI-Z071) RACINE, (WI-Z072) KENOSHA

12/02/12 21:00 CST	0	Dense Fog
12/03/12 10:00 CST	0	

An increasingly moist southeast flow into southern Wisconsin saturated the near-surface layer, which combined with cooling temperatures, brought dense fog to most of South Central Wisconsin during the late evening of December 2nd. The dense fog expanded to cover the remainder of southern Wisconsin during the overnight hours, with the low visibilities lasting until around 12 noon on December 3rd. Visibilities were reduced to 1/4 mile or less and some airplane flights were delayed at some airports.

(WI-Z046) MARQUETTE, (WI-Z047) GREEN LAKE, (WI-Z051) FOND DU LAC, (WI-Z052) SHEBOYGAN, (WI-Z056) SAUK, (WI-Z057) COLUMBIA, (WI-Z058) DODGE, (WI-Z059) WASHINGTON, (WI-Z062) IOWA, (WI-Z063) DANE, (WI-Z064) JEFFERSON, (WI-Z068) GREEN

12/09/12 06:00 CST	0	Winter Weather
12/09/12 17:00 CST	0	

A complex low pressure system brought the first significant snow of the 2012/2013 winter season to much of southern Wisconsin. A surface trough axis between two low pressure centers pivoted over southern Wisconsin...with the one low center to the west passing through southern Wisconsin along this trough and combining with the other low center east of the state. This pivoting trough axis became the focus of low level convergence beneath deeper vertical motions due to strong warm air advection and isentropic upglide. Locations along and northwest of a Sheboygan...West Bend...Fort Atkinson to Monroe line saw 3 to 4 inches of snow beginning early in the morning of December 9th and ending in the late afternoon.

(WI-Z046) MARQUETTE, (WI-Z056) SAUK, (WI-Z057) COLUMBIA, (WI-Z058) DODGE

12/16/12 05:00 CST	0	Dense Fog
12/16/12 10:00 CST	0	

Light winds and abundant low level moisture led to the development of dense fog over northern sections of South Central Wisconsin and a small portion of Southeast Wisconsin during the overnight hours of December 16th. Increasing winds and drier air moving in with a cold front dissipated the fog before sunrise.

(WI-Z052) SHEBOYGAN, (WI-Z059) WASHINGTON, (WI-Z060) OZAUKEE, (WI-Z064) JEFFERSON, (WI-Z065) WAUKESHA, (WI-Z066) MILWAUKEE, (WI-Z070) WALWORTH

12/20/12 02:00 CST	0	Winter Storm
12/21/12 00:39 CST	0	

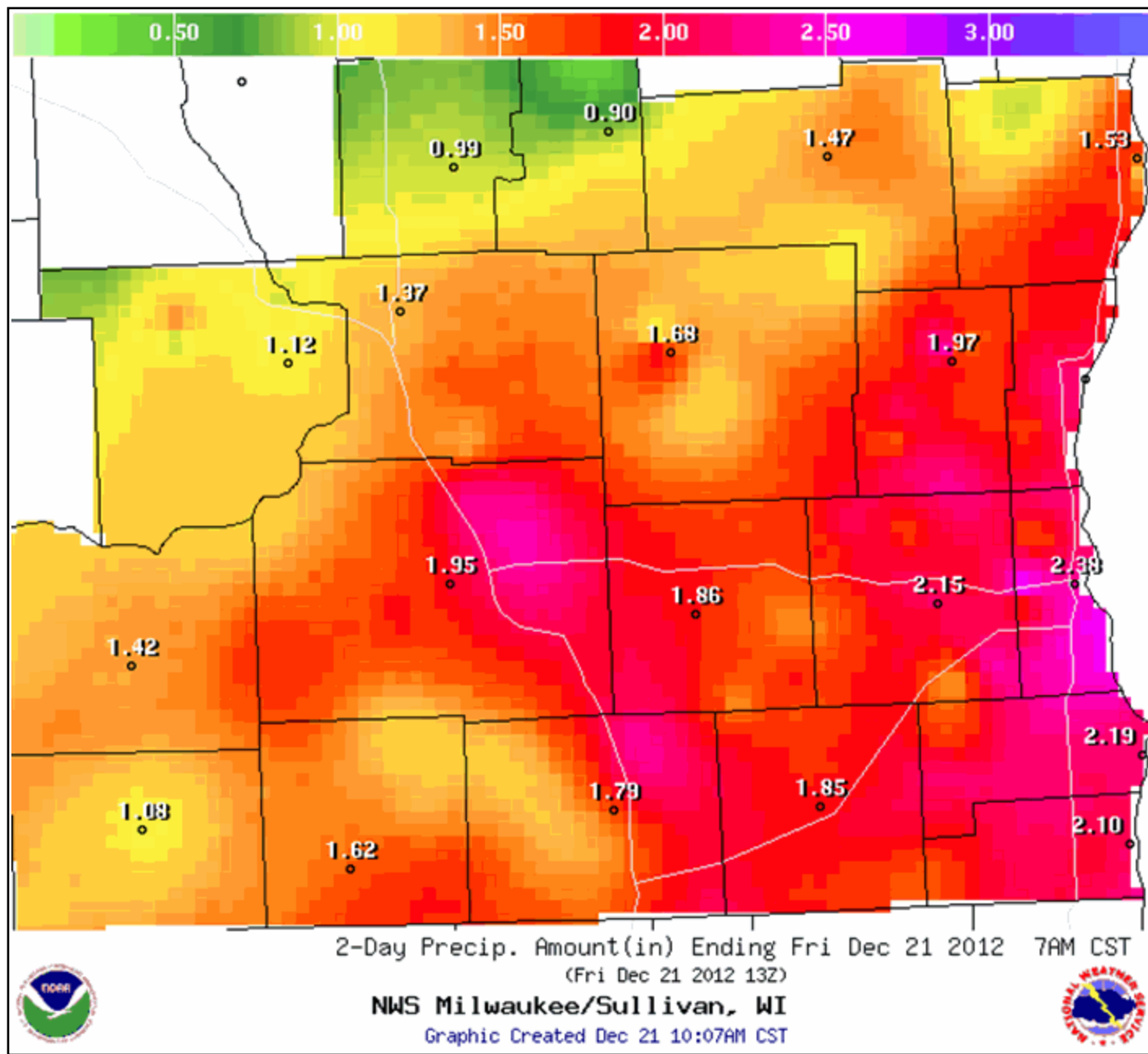
A major winter storm brought impressive double-digit snowfall amounts to parts of Southeast Wisconsin. Winds gusted to between 40 and 45 mph during the peak of the storm, reducing visibilities to 1/4 mile on occasions...even in those areas that picked up only 2 to 4 inches of snow. Moderate drifting was reported with drifts of 2 to 4 feet in height. A number of side roads had difficult travel conditions as snow plows struggled with the drifting. A number of power-outages were reported due to the heavy wet snow and winds bringing down branches onto power lines. Maximum 2-Day snow totals in each county include 17" in Lake Mills (Jefferson Co.), 15" in Wayne (Washington Co.), an estimated 13" in extreme northwest Rock County, an estimated 12" in extreme southwest Sheboygan County, an estimated 10" in extreme northwest corners of both Ozaukee and Waukesha Counties, an estimated 8 inches in extreme north-central Walworth County, and an estimated 4 inches in extreme northwest Milwaukee County. This winter storm was triggered by a strong low pressure which tracked from southeast Kansas to near Chicago the evening of December 20th...reaching the southern tip of Lake Huron by the morning of December 21st. Warm air wrapping into the system initially brought rain into Southeast Wisconsin before changing over to all snow.

A new daily rainfall record was set at Milwaukee ahead of the change-over to snow. Milwaukee recorded 2.16 inches of rain and liquid equivalent precipitation on Thursday, December 20th, which broke the previous record of 1.48 inches, set in 1977. In general, rain amounts of 1.50 to over 2.00 inches were reported southeast of a line from Ozaukee County to Walworth County, caused water levels in

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most rivers and streams to rise to near bank-full or bank-full. However, flood stages were not reached, due to the snow and colder temperatures halting runoff.



2-Day precipitation totals across South-central and Southeast Wisconsin.

(WI-Z046) MARQUETTE, (WI-Z047) GREEN LAKE, (WI-Z051) FOND DU LAC, (WI-Z056) SAUK, (WI-Z057) COLUMBIA, (WI-Z058) DODGE, (WI-Z062) IOWA, (WI-Z063) DANE, (WI-Z067) LAFAYETTE, (WI-Z068) GREEN, (WI-Z069) ROCK	0	Blizzard
12/20/12 10:00 CST	0	
12/21/12 00:39 CST	0	

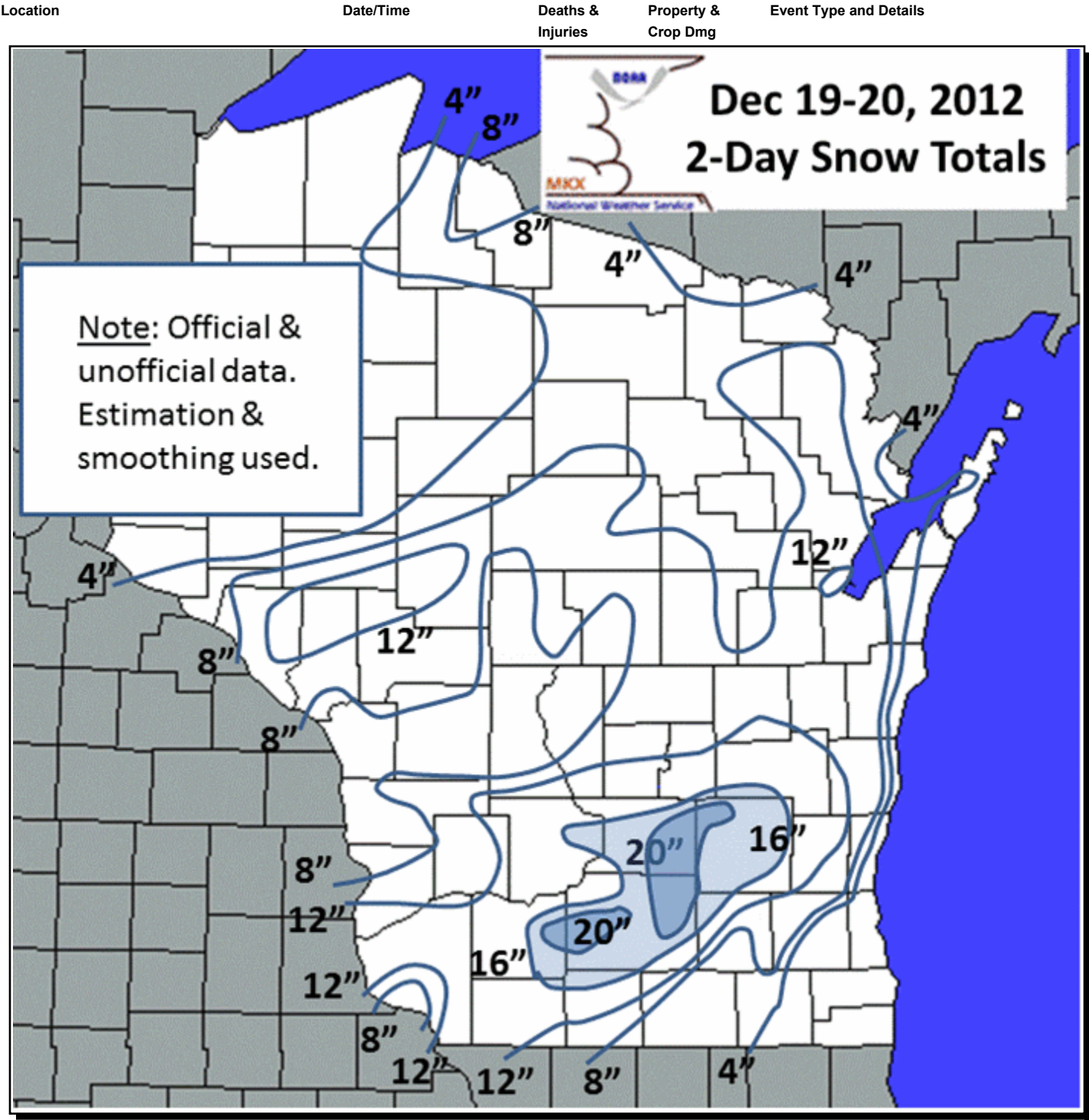
A blizzard brought record double-digit snowfall to much of South-Central and a portion of Southeast Wisconsin. Winds gusted to between 40 and 48 mph during the peak of the storm...bringing near-zero visibilities and severe drifting across the region. Major highways as well as a majority of side roads became nearly impassible as plowing operations were greatly limited, or completely suspended as plows became stuck in the heavy, wet, drifting snow. Area airports suspended all flight operations. A maximum wind gust of 48 mph (42 knots) was measured at the Monroe Airport in Green County. A new daily snowfall record was set at Madison Truax Field with 13.3" on calendar day December 20th (old record was 4.6" in 2000). This is the 2nd highest total for any single calendar day.

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The greatest calendar day snowfall in Madison was 17.3 inches on December 3, 1990. The UW-Arlington Experimental Farm in Columbia County measured 14.0 inches for the 24-hour period ending 700 AM CST December 21st, which tied the 1-Day snowfall record for that county. The 2-day (19") and 3-Day (21") at this location were new records. The 2-day (21.5") and 3-Day (21.8") snowfall totals in Mt. Horeb established new records for Dane County. The 2-day (20.5") and 3-Day (21.2") snowfall totals in Dodgeville established new records for Iowa County. The 2-day (20.1") and 3-Day (24.1") snowfall totals in the Town of Westford established new records for Dodge County. The 2-day (16.6") and 3-Day (18.2") snowfall totals in New Glarus established new records for Green County. Elsewhere in south-central and parts of Southeast Wisconsin several other sites were within 10% of their county's 1-Day, 2-Day and 3-day records. In addition to the heavy snow and near-zero visibilities, the strong gusty winds downed tree limbs and power lines, with utility companies reporting 34,500 customers without power at the height of the storm. This blizzard was triggered by a strong low pressure which tracked from southeast Kansas to near Chicago the evening of December 20th...reaching the southern tip of Lake Huron by the morning of December 21st. Warm air wrapping into the system initially brought rain into parts of south-central and southeast Wisconsin before changing over to all snow. A new daily precipitation record was set in Madison...1.16 inches of liquid equivalent precipitation on Thursday, December 20th, which broke the previous record of 0.80 inches, set in 1882.

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2-Day snowfall totals for December 19-20, 2012.